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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,573	08/20/2003	Kenji Hayashi	116887	6643

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EXAMINER	
QUARTERMAN, KEVIN J	

ART UNIT	PAPER NUMBER
2879	

MAIL DATE	DELIVERY MODE
09/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/644,573	HAYASHI, KENJI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin Quarterman	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 13-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05 07</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 13 July 2007 has been entered.

### ***Election/Restrictions***

2. In order to retain the right to rejoinder, applicant is advised that the claims to the nonelected invention should be amended during prosecution to require the limitations of the elected invention. Failure to do so may result in a loss of the right to rejoinder (MPEP § 821.04).

### ***Claim Objections***

3. Claim 24 is objected to because of the following informalities: In line 7, claim 24 recites "the inorganic oxide of the cathode..." in the claim. The term *conductive* should be inserted between the terms "inorganic" and "oxide" for consistency in the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-12, 22, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Ogura (US 6,924,594).

6. Regarding independent claim 1, Figure 2 of Ogura shows an electroluminescent device comprising first electrodes (202); electroluminescent layers (207) disposed over the first electrodes; a second electrode (208) disposed over the electroluminescent layers and having a first surface (210) that includes an inorganic oxide (col. 7, ln. 44-47); and a barrier layer (211) having a second surface (210) that includes an inorganic compound, the second surface of the barrier layer being in direct contact with the first surface of the second electrode.

7. Regarding claim 2, Ogura discloses the electrode including indium tin oxide or indium zinc oxide (col. 6, ln. 40-43).

8. Regarding claim 3, Figure 2 of Ogura shows the second electrode covering side faces and upper faces of the electroluminescent layer.

9. Regarding claim 4, Figure 2 of Ogura shows the barrier layer (211) including at least one sublayer (210) composed of a silicon compound (col. 7, ln. 44-47).

10. Regarding claim 5, Figure 2 of Ogura shows the barrier layer including a sublayer in contact with the second electrode, the sublayer being composed of silicon oxide (col. 7, ln. 44-47).

11. Regarding claim 6, Figure 2 of Ogura shows the barrier layer including a sublayer in contact with the second electrode, the sublayer being composed of silicon nitride (col. 7, ln. 44-47).

12. Regarding claim 7, Figure 2 of Ogura shows the barrier layer including a sublayer in contact with the second electrode, the sublayer being composed of silicon nitride oxide (col. 9, ln. 38-40; col. 18, ln. 11-22).

13. Regarding claim 8, Figure 2 of Ogura shows an insulating layer (214) disposed around the second electrode, the insulating layer being composed of a silicon compound (col. 6, ln. 45), the barrier layer extending to the insulating layer.

14. Regarding claim 9, Figure 2 of Ogura shows a protective layer covering the barrier layer (213).

15. Regarding claim 10, Figure 2 of Ogura shows an adhesive layer (211) disposed between the barrier layer and the protective layer.

16. Regarding claim 11, Ogura discloses the adhesive layer including a material that is softer than that of the protective layer (col. 2, ln. 52-66).

17. Regarding claim 12, Figure 14 of Ogura shows an electronic apparatus comprising the electroluminescent device of claim 1.

18. Regarding independent claim 22, Figure 2 of Ogura shows an electroluminescent device comprising first electrodes (202); electroluminescent layers (207) being disposed

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over the first electrodes; a second electrode (208/209) being disposed over the electroluminescent layers and including an inorganic oxide (210); and a barrier layer (211) including an inorganic compound (210), the inorganic oxide of the second electrode directly contacting the inorganic compound of the barrier layer.

19. Regarding independent claim 23, Figure 2 of Ogura shows an electroluminescent device comprising first electrodes (202); electroluminescent layers (207) disposed over the first electrodes; a second electrode being disposed over the electroluminescent layers and including an inorganic oxide (210); and a barrier layer (211) being disposed on the second electrode and including silicon compound (col. 7, ln. 44-47), the inorganic oxide of the second electrode directly contacting the silicon compound of the barrier layer.

### ***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura (US 6,924,594) in view of Konuma (US 2002/0030443).

22. Regarding independent claim 24, Figure 2 of Ogura shows an electroluminescent device comprising anodes (202); electroluminescent layers (207) disposed over the anodes; a cathode (208) being disposed over the electroluminescent layers and

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including an inorganic oxide (210); and a barrier layer (211) including an inorganic compound (210), the inorganic oxide of the cathode directly contacting the inorganic compound of the barrier layer.

23. Ogura teaches the limitations of the independent claim 24 discussed earlier but fails to exemplify the cathode including an inorganic conductive oxide.

24. Konuma teaches that it is known in the art to provide electroluminescent devices with a cathode including an inorganic conductive oxide for forming a pixel electrode high in reflectance and low in sheet resistance (¶ [0042]).

25. Therefore, it would have been obvious to one having ordinary skill in the art to provide the electroluminescent device of Ogura with a cathode including an inorganic conductive oxide, as taught by Konuma, for improving the efficiency of the electroluminescent device.

### ***Response to Arguments***

26. Applicant's arguments received 13 July 2007 have been fully considered but they are not persuasive.

27. In response to applicant's argument that Ogura does not teach the cathode including an inorganic oxide, the Examiner notes that Ogura teaches the surface (210) of the cathode being composed of silicon oxide, silicon nitride, or copper phthalocyanine (col. 7, ln. 44-46). Thus, the Examiner holds that Ogura teaches the cathode including a surface comprised of an inorganic oxide as claimed in the instant application.



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**Contact Information**

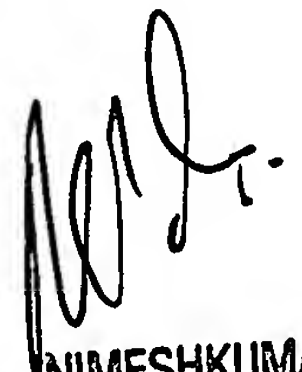
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (571) 272-2461. The examiner can normally be reached on M-TH (7-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin Quarterman  
Examiner  
Art Unit 2879

kq   
29 August 2007

  
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